

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/010444

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> Int.Cl. <sup>7</sup> C12N15/13, C12N5/10, C12P21/02, C07K16/18, A61K39/395, G01N33/561, G01N33/53, G01N27/447  According to International Patent Classification (IPC) or to both national classification and IPC														
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) Int.Cl. <sup>7</sup> C12N15/13, C12N5/10, C12P21/02, C07K16/18, A61K39/395, G01N33/561, G01N33/53, G01N27/447  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) JSTPLUS, WPI (DIALOG), BIOSIS (DIALOG), PUBMED														
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>Hisato TACHIBANA et al., "Mouse Fukko B-1 Saibo ni okeru joining chain Idenshi no Hatsugen", Nichidai Shigaku (2002), Vol.76, No.5, pages 425 to 433, page 428, right column, line 13 to page 430, left column, line 4</td> <td>1-8</td> </tr> <tr> <td>Y</td> <td>STOLL T.S., Effects of culture conditions on the production and quality of monoclonal IgA., Enzyme Microb Technol (1997), Vol.21, No.3, pages 203 to 211, page 207, tables</td> <td>1-8</td> </tr> <tr> <td>A</td> <td>MAYUS J.L., Inhibition of in vitro anti-DNA B-cell responses by cyclosporine, Cell Immunol. (1985), Vol.94, No.1, pages 195 to 204</td> <td>1-8</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	Hisato TACHIBANA et al., "Mouse Fukko B-1 Saibo ni okeru joining chain Idenshi no Hatsugen", Nichidai Shigaku (2002), Vol.76, No.5, pages 425 to 433, page 428, right column, line 13 to page 430, left column, line 4	1-8	Y	STOLL T.S., Effects of culture conditions on the production and quality of monoclonal IgA., Enzyme Microb Technol (1997), Vol.21, No.3, pages 203 to 211, page 207, tables	1-8	A	MAYUS J.L., Inhibition of in vitro anti-DNA B-cell responses by cyclosporine, Cell Immunol. (1985), Vol.94, No.1, pages 195 to 204	1-8
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.														
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "Z" document member of the same patent family														
Date of the actual completion of the international search 05 October, 2004 (05.10.04)		Date of mailing of the international search report 26 October, 2004 (26.10.04)												
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer												
Facsimile No.		Telephone No.												

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	STOCK S.J., Production and isolation of large quantities of monoclonal antibody using serum-free medium and fast protein liquid chromatography, Hybridoma (1989), Vol.8, No.2, pages 241 to 247	1-8

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**Box No. II** Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III** Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

There is no matter seemingly being a special technical feature in the meaning within the second sentence of PCT Rule 13.2 common to the inventions according to claims 1 to 8, claims 9 to 33, claims 34 and 36 to 40, claims 35 to 40, claims 41 and 43 to 48, claims 42 to 48, claims 49 and 52, claims 50, 51 and 53 and claims 54 to 65, either each other or all of these invention groups. Thus, no technical relevancy can be found out among these different groups of inventions in the meaning within PCT Rule 13.

Such being the case, it is obvious that the inventions according to claims 1 to 65 do not comply with the requirement of unity of invention.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
Claims 1 to 8.

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item I.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

## a. type of material

- ☒ a sequence listing  
☐ table(s) related to the sequence listing

## b. format of material

- ☐ in written format  
☒ in computer readable form

## c. time of filing/furnishing

- ☐ contained in the international application as filed  
☒ filed together with the international application in computer readable form  
☐ furnished subsequently to this Authority for the purposes of search

2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments: